

**A. Claim 11**

**1. One skilled in the art would not have been motivated to combine the teachings of Arthur and Walker**

Applicant submits that claim 11 is patentable over Arthur and Walker because one skilled in the art would not have been motivated to combine the teachings of the cited references.

For example, Fig. 2 of Arthur shows a printing apparatus 10 that has three printing assemblies 12, which contain three memory elements 14, respectively, and which are mounted on the carriage 34. The apparatus 10 also has a single read/write head 44 that reads information from, and writes information to, the elements 14.

Specifically, as the carriage 34 moves back and forth across the recording medium, the head 44 reads (or writes) information from (or to) with the first memory 14 of the first printing assembly 12 when the assembly 12 passes by the head 44. Similarly, the head 44 sequentially reads (or writes) information from (or to) with the second and third memories 14 of the second and third printing assemblies 12 as they pass by the head 44. (Column 3, lines 39-61). Since the printing apparatus 10 only has a single head 44, Arthur clearly teaches that the three printing assemblies 12 must move with respect to the head 44 in order for the head 44 to exchange information with each of the three memories 14.

Fig. 6 of Walker shows a printing system 10 having a printer portion 12 and a plurality of ink containers 18 (one of which is shown in the figure). The containers 18 respectively have memories 54 (Fig. 3) and linking devices 38, and the printer portion 12 has a plurality of linking devices 42 that respectively correspond to the linking devices 38. (Column 4, lines 45-54). The printer portion 12 reads data from and writes data to a first memory 54 of a first ink container 18

by establishing a communication link between the linking device 38 on the first ink container 18 and the corresponding linking device 42 in the printer portion 12.

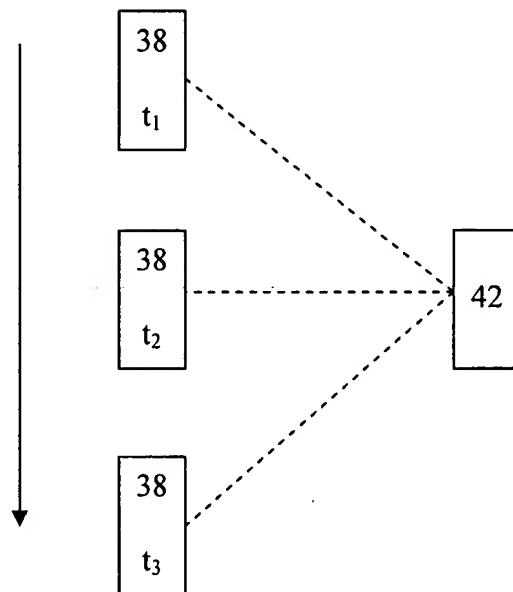
Furthermore, unlike Arthur, Walker expressly teaches that the linking devices 38 (on the ink containers 18) do not move relative to the their corresponding linking devices 42 (on the printer portion 12) in order to establish a reliable communication link between the devices 38 and 42, to conserve power, to eliminate noise, and to reduce costs. (Column 8, lines 34-40; column 8, line 66, to column 9, line 7; column 9, lines 42-56). Since the linking devices 38 and 42 do not move with respect to each other, the printing portion 12 has multiple linking devices 42 to respectively communicate with the multiple linking devices 38 on the containers 18. (Column 4, lines 45-54).

On page 6 of the Office Action, the Examiner acknowledges that Walker suggests holding the linking device 38 stationary with respect to the linking device 42 to “optimize” the information exchange between them. However, he contends that Walker does not require the linking devices 38 and 42 to be stationary with respect to each other to exchange information, because as long as the device 38 moves within the capture region 74 of the device 42 and has the proper orientation with respect to the device 42, the devices 38 and 42 can adequately communicate with each other.

Applicant disagrees that Walker contains any teaching that the devices 38 and 42 can adequately exchange information when they move with respect to each other. For example, column 8, lines 2-6, of the reference states that the linking devices 38 and 42 can communicate when “positioning the linking device 38 within [the] capture region 74 with the proper orientation to the linking device 42.” The fact that Walker states that the device 38 can

communicate with the device 42 when it is “positioned” in the capture region 74 does not suggest that the devices 38 and 42 can communicate when the device 38 “moves through” or “moves within” the region 74. Moreover, the express statements at column 8, lines 34-40; column 8, line 66, to column 9, line 7; and column 9, lines 42-56, indicate that the devices 38 and 42 cannot communicate adequately when the device 38 moves with respect to the device 42.

Moreover, the fact that the device 38 can only exchange information with the device 42 when it is properly “oriented” with respect to the device 42 suggests that it cannot exchange information when it moves relative to the device. For example, assume that the device 38 moves with respect to the device 42, as the arrow indicates in the figure below.



At time  $t_1$ , the right surface of the linking device 38 is offset from the left surface of the linking device 42 and is effectively angled at -45 degrees with respect to the surface of the device 42. Then, at time  $t_2$ , the surface of the linking device 38 directly faces the surface of the linking device 42 and effectively forms an angle of zero degrees with respect to the surface of the device 42. Finally, at time  $t_3$ , the surface of the linking device 38 is offset from the surface of

the linking device 42 and is effectively angled at +45 degrees with respect to the surface of the device 42.

As illustrated above, the orientation of the linking device 38 constantly changes when the device 38 moves with respect to the linking device 42. Thus, since the devices 38 and 42 must be precisely oriented with respect to each other to exchange information, they cannot communicate adequately when the device 38 moves relative to the device 42.

Accordingly, one skilled in the art would not have been motivated to substitute the linking devices 38 in Walker for the memories 14 in Arthur and substitute the linking device 42 in Walker with the head 44 in Arthur. Specifically, if one incorporated the devices 38 and 42 into the Arthur device, the devices 38 (corresponding to the memories 14) would have to move relative to the device 42 (corresponding to the head 44), and thus, the devices 38 and 42 would not be able to reliably exchange information.

**2. Even assuming *arguendo* that the teachings of the references are combined, the combined teachings do not suggest all of the features of claim 11**

Even if one skilled in the art combined the teachings of Arthur and Walker, Applicant submits that the combined teachings of the references do not suggest the claimed invention. For example, claim 11 states that a communication unit is able to communicate with storage elements provided on ink containers not only when the ink containers are loaded on a carriage, but also when the ink containers are not loaded on the carriage.

The Examiner acknowledges that Arthur does not suggest the claimed communication unit but maintains that Walker does. For example, on page 6 of the Office Action, the Examiner argues that column 8, lines 1-6, of the reference states that the linking devices 38 and 42 can

reliably communicate when the device 38 is positioned within the capture region 74 and is properly oriented with respect to the device 42. Thus, the Examiner contends that if the ink container 18 (with the linking device 38) is not loaded on the printing portion 12, the device 38 can still communicate with the device 42, as long as it is properly positioned and oriented.

Applicant submits that the Examiner's position is flawed because Walker teaches that the device 38 is properly positioned and oriented only when it is loaded on the printing portion 12. For example, as shown in Fig. 6, the device 38 can only be properly oriented (*i.e.*, directly facing) the device 42 at a proper position (*i.e.*, distance) when the container 18 is loaded in the docking station 24. (*See also* column 8, lines 23-44). Other portions of Walker likewise suggest that the container 18 must be installed for the devices to communicate properly. (Column 3, lines 50-54; column 4, lines 7-10; column 4, line 64, to column 5, line 7).

Since the Examiner acknowledges that Arthur does not suggest the claimed communication unit and since Walker does not suggest the claimed device for the reasons presented above, Applicant submits that claim 11 is patentable over the references.

**B. Claims 12 and 14-17**

Since claims 12 and 14-17 depend upon claim 11, Applicant submits that they are patentable at least by virtue of their dependency.

**C. Claim 20**

Since claim 20 includes features that are similar to the features discussed above in conjunction with claim 11, Applicant submits that it is patentable at least for similar reasons.

**D. Claims 21 and 23-26**

Since claims 21 and 23-26 depend upon claim 20, Applicant submits that they are patentable at least by virtue of their dependency.